Operating Instructions

Panasonic VHS
Professional/Industrial Video

Model AG-500R

Monitor/Player

Before attempting to connect, operate or adjust this product, please read these instructions completely.

VQT2135

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

"This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications set forth in Subpart J of Part 15 of the FCC Rules. If this equipment does cause interference to radio or television reception which can be determined by turning the equipment on and off, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver."

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

For use in the United States:
WARNING TO PURCHASERS: The unauthorized recording of copyrighted broadcast and prerecorded programs for commercial purposes is copyright infringement.

For use in other countries:
WARNING: Unauthorized recording of copyrighted television programs, films, video tapes and other materials may infringe on the rights of copyright owners and be contrary to copyright laws.

▒▒ is the safety information.

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Inspection

CAUTION:
TO PREVENT FIRE OR SHOCK HAZARD AND ANNOYING INTERFERENCE, USE THE RECOMMENDED ACCESSORIES ONLY.

Optional Accessories

- Infrared Remote Controller, AG-A50
- Video Cassette Tape
  NV-T160
  NV-T120
  NV-T60
  NV-T30

PANASONIC recommends that only cassette tapes that have been tested and inspected for use in 2, 4, and 6 hour VTR machines used.

In addition to the tapes specified, the unit will accept any cassette tape which has the VHS mark.

Features

1. **Self-contained VTR/TV monitor**
   A single unit consisting of a VTR for playback, and a 10" TV monitor.

2. **Small size and compact design for easy carrying**

3. **Simple operation**
   Playback starts simply by turning on the power switch and inserting a prerecorded cassette tape.

4. **SP/LP/SLP-3 mode playback**

5. **Clear picture in still and slow motion modes**

6. **Repeat playback**
   Recorded tapes can be played back in the following ways.
   - From the start of a tape to the end.
   - From the start of a tape to the end of the video signal. If there is no end of video signal, playback is made automatically from the start of a tape to the end.

7. **Audio and video input/output terminals**
   The AG-500R can be used as a monitor by means of the input terminals.
   Using the output terminals, another VTR or monitoring equipment can be connected.

8. **High quality picture**
   The comb filter assures a high quality picture.

9. **Headphone jack**
   A headphone can be used for audio monitoring. Audio is monaural.

Cautions for Use

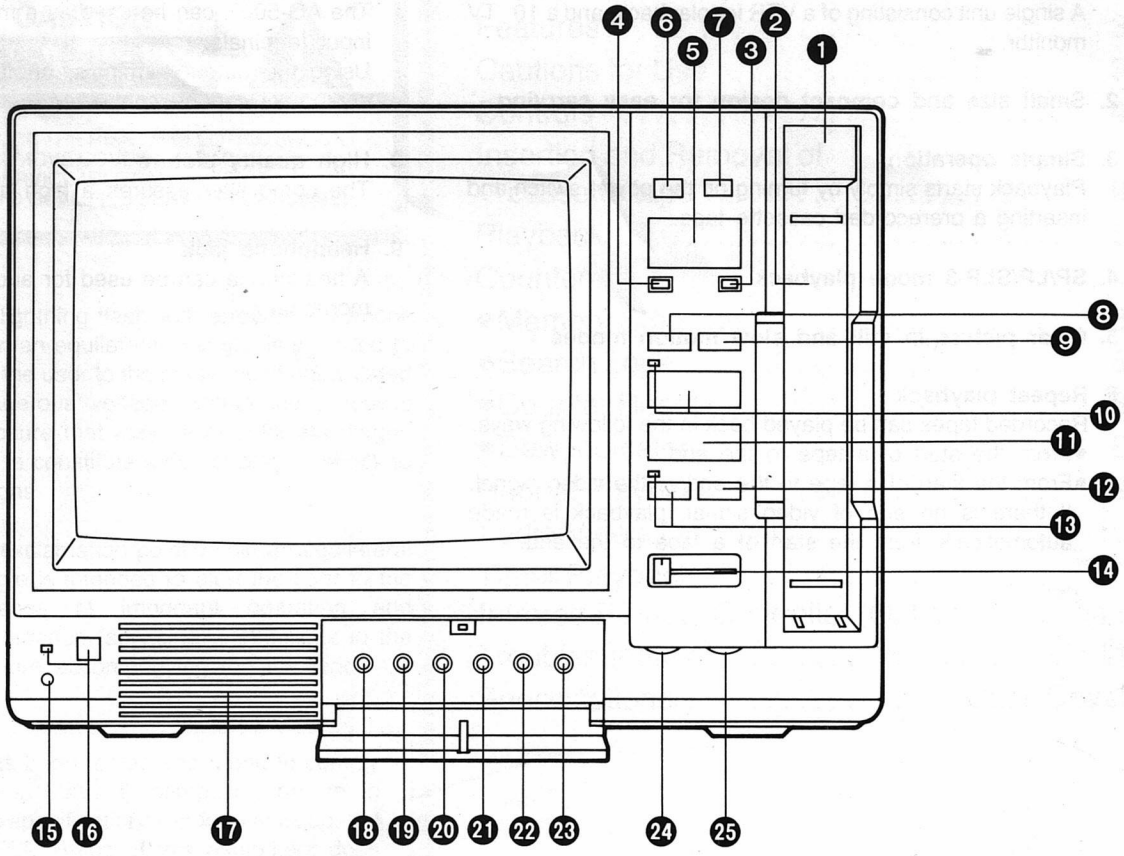
- Do not insert fingers or any other objects into the video cassette holder.
- Avoid operating or leaving the unit near strong magnetic fields. Be especially careful of large audio speakers.
- Avoid operating or storing the unit in an excessively hot, cold, or damp environment as this may result in damage both to the unit and to the tape.
- This unit is supplied with a 3-prong grounded AC plug —do not try to defeat its purpose.
- Do not spray any cleaner or wax directly on the unit.
- If the unit is not going to be used for a length of time, turn the Power OFF and disconnect the power plug from the AC outlet.
- Do not leave a cassette in the unit when not in use.
- Do not block the ventilation slots on the top of the unit.
- Use this unit horizontally and do not place anything on the top panel.
- Before turning OFF the power switch, ensure that the unit is in the Stop mode. Also, before leaving the unit for a long period or moving it from one place to another, be sure to remove the cassette tape and turn OFF the power switch.
- If you place another piece of equipment (particularly a monitor TV) on the right of the unit, maintain an adequate distance between it and the unit. If it is too close to the unit, the video and/or audio may be adversely affected.
- Do not attempt to disassemble the unit.
  There are no user serviceable parts inside.
- If any liquid spills inside the unit, have the unit examined for possible damage.
- Refer any needed servicing to qualified service personnel.

Cleaning care for video heads
The video heads are the means by which the unit reads pictures from the tape during playback.
In the unlikely event that they become dirty enough to be clogged, no picture will be played back. This can easily be determined if, during playback of a known good tape, there is good sound, but no picture (picture is extremely snowy). If this is the case, have the unit checked by qualified service personnel.

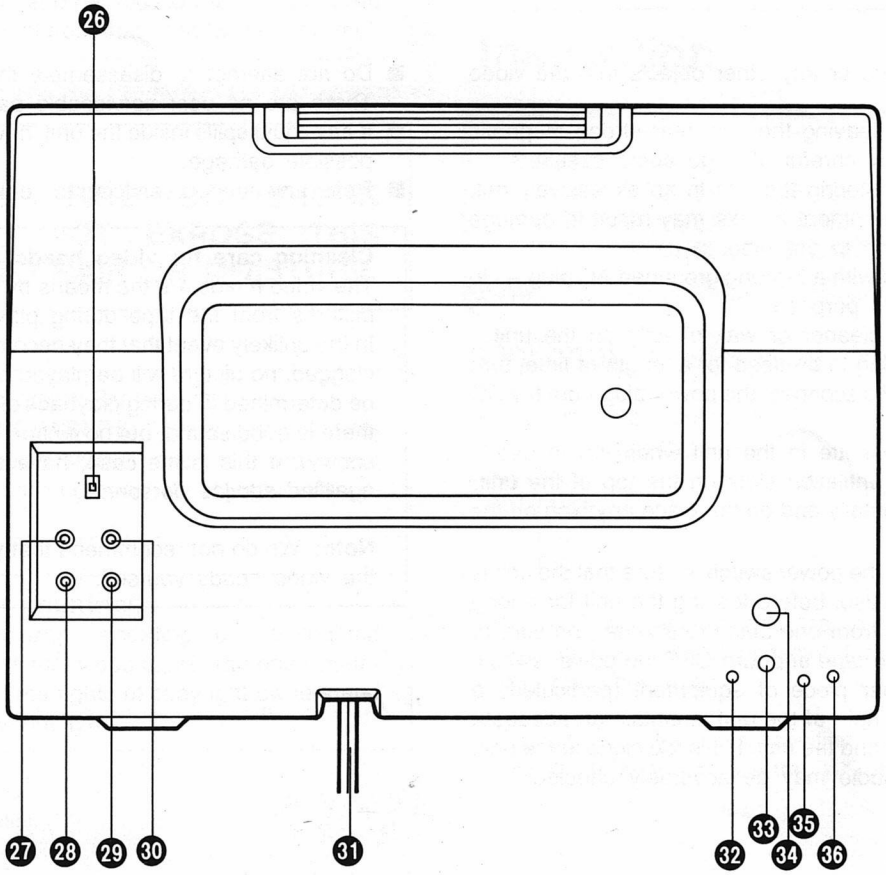
Note: We do not recommend that you attempt to clean the video heads yourself.

Controls

Front View



Rear View



Front View

NO.	NAME	PAGE
1	Remote Control Receiver	11
2	Cassette Holder	—
3	Memory/Search Lock Button	8
4	Counter Reset Button	8
5	Counter	8
6	Eject Button	6
7	Cassette In Mark	6
8	Rewind Button	7
9	Fast Forward Button	7
10	Play Button/Lamp	6
11	Stop Button	7
12	Slow Button	7
13	Still Button/Lamp	7
14	Audio Volume Control	6
15	Headphone Jack	6
16	Power Switch/Lamp	—
17	Speaker	—
18	V-Hold Control Adjust this control if the picture rolls up or down.	—
19	Sharpness Control Turn clockwise to get a sharper picture and turn counterclockwise to get a softer picture. Sharpness control can only be adjusted for the playback picture.	—
20	Contrast Control Adjust this control for proper overall contrast.	—
21	Bright Control Adjust brightness level for proper overall picture brightness.	—
22	Tint Control Adjust this control for proper color phase or flesh tone.	—
23	Color Control Adjust this control for proper color saturation.	—
24	Slow Tracking Control	7
25	Tracking Control	6

Rear View

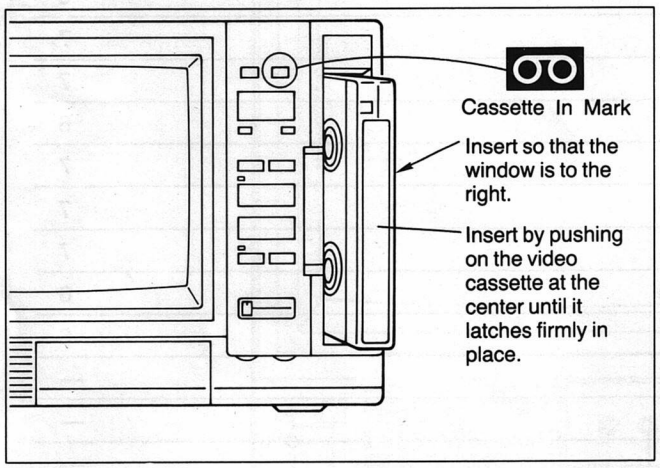
26	Auto Repeat Switch	9
27	Video Input Jack (RCA)	10
28	Audio Input Jack (RCA)	10
29	Audio Output Jack (RCA)	10
30	Video Output Jack (RCA)	10
31	Power Cord	—
32	V-Size Control	—
33	Screen Control	—
34	Focus Control	—
35	Service Switch	—
36	H-Hold Control	—

Note: Focus, Screen, H-Hold, V-Size controls and Service Switch are not user controls, these controls should be used by a serviceman only.

Insertion and Removal of cassette tape

Insertion

1. Press the Power Switch ON.
2. Insert the video cassette as shown below.
   When the cassette has been fully inserted, the Cassette In Mark lights and playback begins automatically. Press the Stop Button to stop the playback.

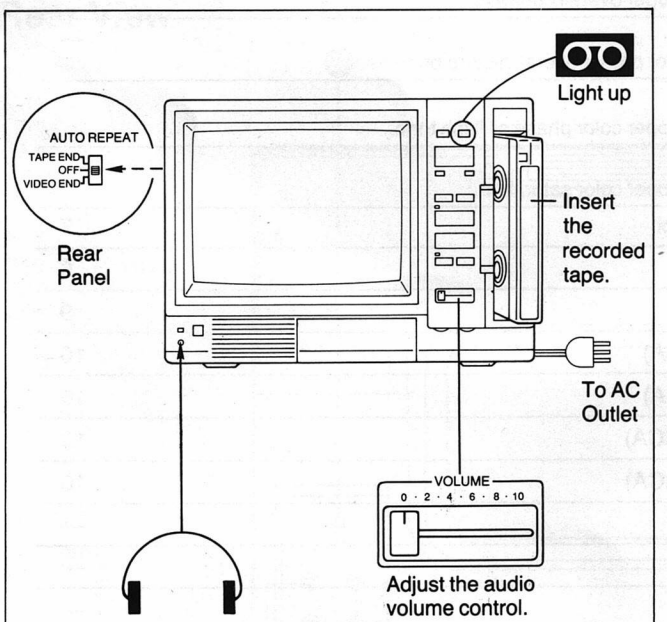

Cassette In Mark
Insert so that the window is to the right.
Insert by pushing on the video cassette at the center until it latches firmly in place.

Removal

1. Make sure that the power is turned ON.
2. Press the Eject Button.

Note:
If the video cassette cannot be removed with the Eject Button pressed, the power is turned off automatically as a protection. In this case, turn the Power Switch to "OFF", then turn ON again.

Playback



Mini-Stereo Headphone (option)
- When using a Headphone, use a mini-stereo plug type Headphone. Do not use a monaural type Headphone. Otherwise, audio cannot be heard from the Headphone Jack.
- The monitoring sound is monaural even if a Mini-Stereo Headphone is used.
- An earphone cannot be used for monitoring.

Preparation

- Press the Power Switch ON.
- Be sure that the Auto Repeat Switch on the rear panel is OFF.

Auto Playback

This function activates playback automatically whenever the tape has been inserted. When the tape is inserted, the Cassette In Mark lights up and playback will start automatically.

Normal Playback

Press the Play Button. Play Lamp lights and playback will start.
- Turn the Tracking Control on the unit if the image is partially obscured by bands of noise to move the noise out of the picture. Normally, leave the control in the detent FIX position.

Slow Motion Playback

Press the Slow Button during normal playback.
Press the Play Button to resume normal playback.
If noise appears during slow motion playback, turn the Slow Tracking Control so that the noise is at a minimum.

- The Still lamp blinks during slow motion playback.
- If slow motion playback continues for over 10 minutes, the unit will go into the stop mode automatically.

Still Playback

Press the Still Button during normal playback or during slow motion playback.
Press the Still Button once again to resume normal playback or slow motion playback.

- If noise appears during still playback, set for slow motion mode and adjust with the Slow Tracking Control to minimize the bands of noise as shown below, then press the Still Button.

- If still playback continues for more than 5 minutes, the unit will go into the stop mode automatically.

Once the Still Button is pressed, it should be pressed once again to be released. And the unit will resume to the last touch when it is released. For example if, during playback, first the Still Button and then the Slow buttons are pressed, the still playback remains. But when the still mode is released, the unit will go into the slow motion playback.

Rewind and Fast Forward the tape

When the unit is in stop mode:
Press the Rewind (REW) Button to rewind the tape.
Press the Fast Forward (FF) Button to move the tape forward rapidly.

Search Playback

When the FF Button is held down while the unit is in the playback, slow motion playback or still, the tape will be played back in the forward direction at about 5 times normal speed in SP or LP mode, and at about 9 times normal speed in SLP mode.

When the Rewind Button is held down while the unit is in the playback, slow motion playback or still, the tape will be played back in the reverse direction at about 5 times normal speed in SP or LP mode, and at about 9 times normal speed in SLP mode.

When the Memory/Search Button is pressed and "S" display appears in the counter, search forward or reverse playback can be obtained without keeping the FF or REW Button depressed.

- If this function is maintained for more than 10 minutes, the unit automatically returns to the previous mode.

- **To release the Search Forward/Reverse manually, proceed as follows:**

❶ Press the Play Button. The unit will go into the following mode.

Previous Mode	Subsequent Mode
Still Playback	Still Playback
Normal Playback	Normal Playback
Slow motion Playback	

❷ Press the Memory/Search Lock Button to clear the "S" display. The unit will go into the previous mode.

❸ Press the Stop Button.
The unit will go into the stop mode.

After Finishing Playback

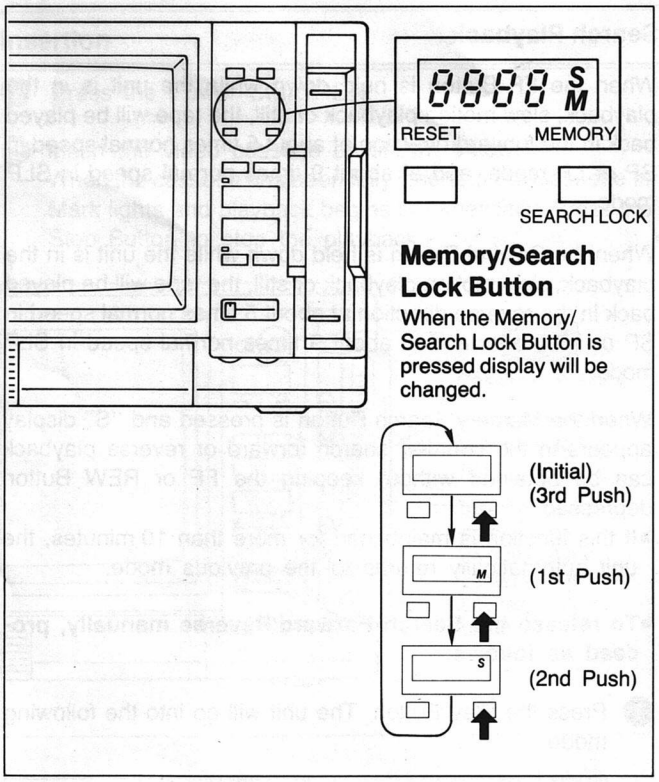
Press the Stop Button to stop the playback.

Notes:

- A distortion may occur on the upper part of the picture during STILL mode, but this is not a malfunction.
- No sound is heard during SEARCH mode.
- Color program may be played back in Black and White or playback image may be dark during SEARCH mode, but this is not a malfunction.
- A skew may occur on the picture during SEARCH mode, but this is not a malfunction.

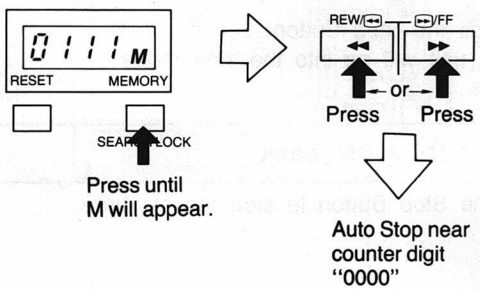
For playback of tapes recorded in SP mode, exchangeability is guaranteed by the VHS standard, but a stable playback picture may not be obtained for tapes recorded in LP or SLP mode.

Counter



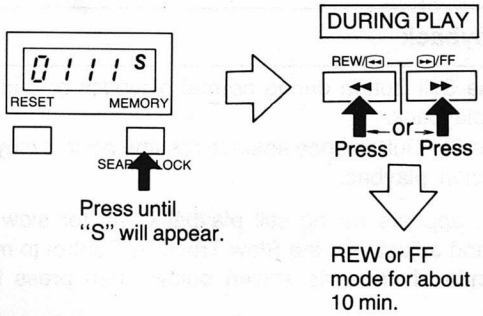
Memory Stop

When the Memory/Search Lock Button is pressed and the "M" display lights at the lower right in the counter, the tape can be stopped near counter digit "0000" during FF or REW modes.



Search Lock

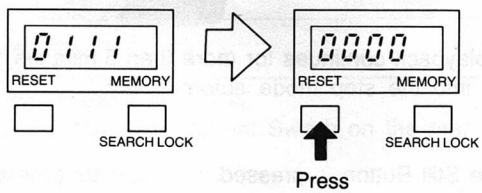
When the Memory/Search Lock button is pressed until the "S" display lights at the upper right of the counter display, and the FF or REW button is pressed during normal playback, slow motion playback or still playback, search forward or reverse playback can be held for about 10 minutes. Thereafter, the unit will automatically return to the previous mode.



- To release the Search Forward/Reverse manually, see page 7, section "Search Playback".

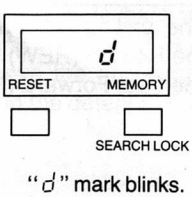
Counter Reset

Pressing the Reset Button clears the counter indication to 0000.



Dew Indicator

In case of dew detection the safety device of this unit will operate in order to protect the cassette tape and video heads. In case of dew detection, the "d" mark in the counter blinks. Take out the cassette tape and wait until "d" mark goes out with power switch turned on.

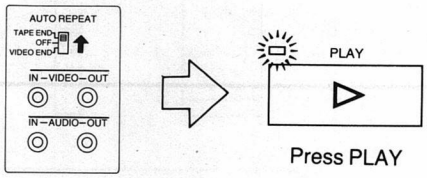


Repeat Playback

Repeat playback between tape beg. and tape end

If it is desired to play back the tape repeatedly from tape beginning to tape end, proceed as follows:

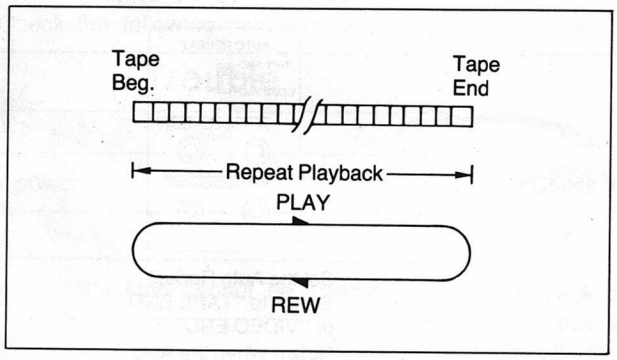
1. Set the Auto Repeat Switch to the "TAPE END" position.
2. Press the Play Button.



Rear View

Set the Auto Repeat Switch to "TAPE END".

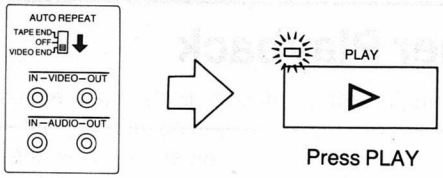
Press PLAY



Repeat Playback between tape beg. and video end

If it is desired to play back the tape repeatedly from tape beginning to interruption of the video signal, first make sure that video recording on the tape is interrupted for at least 3 seconds (see diagram).

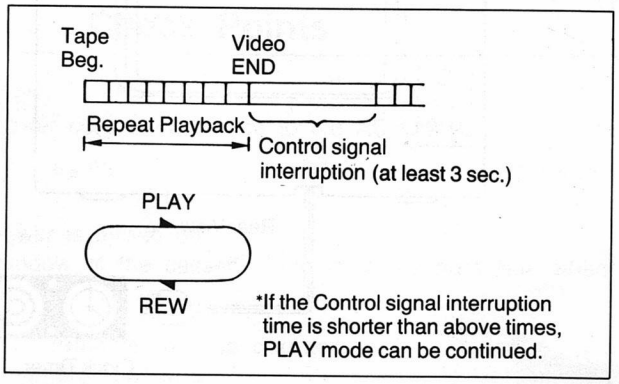
1. Set the Auto Repeat Switch to the "VIDEO END" position.
2. Press the Play Button.



Rear View

Set the Auto Repeat Switch to "VIDEO END".

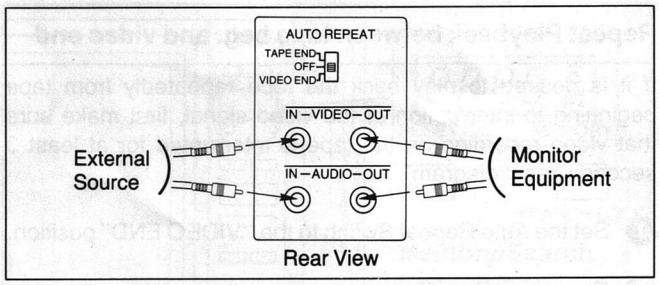
Press PLAY


Tape Beg.
Video END
Repeat Playback
Control signal interruption (at least 3 sec.)
PLAY
REW
*If the Control signal interruption time is shorter than above times, PLAY mode can be continued.

Notes:

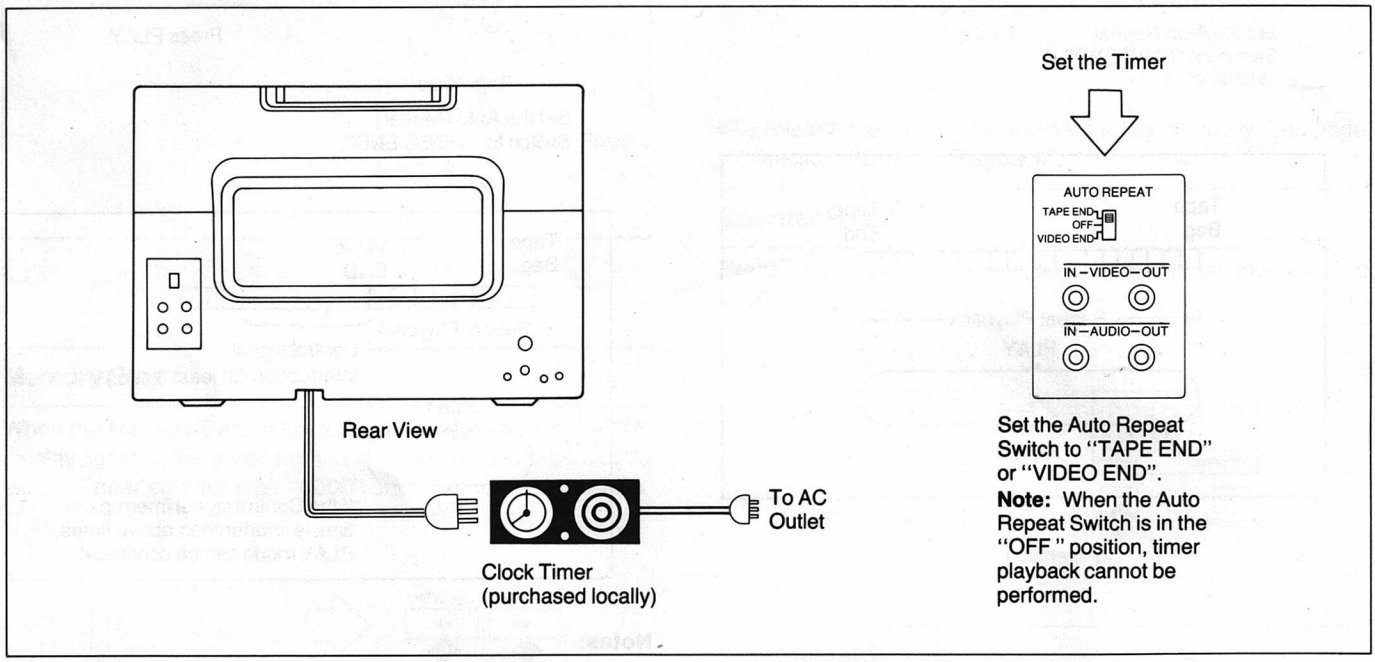
- If short repeat playback is continued many times, the repeated section of tape may be damaged.
- NV-T160 type cassettes are not recommended for Repeat Playback use.

Audio/Video Terminals



When you want to view an input signal on the monitor during stop, fast forward or rewind (i.e. E to E picture), turn the unit to Stop mode and connect the external input signal to the Audio and Video Inputs of this unit.
The external input signal appears on the monitor automatically.

Timer Playback


Set the Timer
AUTO REPEAT
TAPE END
OFF
VIDEO END
IN – VIDEO – OUT
IN – AUDIO – OUT
Rear View
To AC Outlet
Clock Timer
(purchased locally)
Set the Auto Repeat Switch to "TAPE END" or "VIDEO END".
Note: When the Auto Repeat Switch is in the "OFF" position, timer playback cannot be performed.

The use of an external timer permits timer playback with this unit.

1. Press the Power Switch ON.
2. Insert the recorded cassette tape.
3. Turn the unit to the Stop mode when the timer playback beginning position is reached.
4. Set the timer to the desired ON time. (Refer to the operating instructions for the timer.)
5. Set the Auto Repeat Switch to the "TAPE END" or "VIDEO END" whichever you desire.
6. Be sure that the power of the timer is ON.

- It takes about one minute to load the tape inside the unit. Therefore, set the timer preset time about one minute before the playback start time.

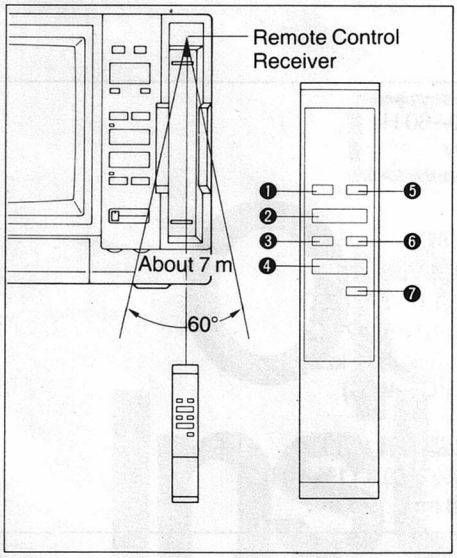
Operation at Preset Times:
At the preset ON time, the power will be automatically turned ON, the tape will start moving, and the playback picture will appear on the monitor.

When the tape reaches its end or video end, it will be rewound to the beginning.

To stop timer playback
If desired to stop the timer playback, press the Stop Button.

Important Notes:
- If the power is turned OFF (i.e. power failure) while the tape is moving during timer playback, the tape will remain loaded. When the power is restored, the tape will be unloaded and then the unit will resume the playback mode.
- Be sure that the Auto Repeat Switch is in the "TAPE END" or "VIDEO END" position, otherwise timer playback cannot be performed.

Infrared Remote Controller (option)



When the optional AG-A50 Infrared Remote Controller is used, the unit can be controlled from a distance about 7 meters away.

- Be sure that the power cannot be turned on and off at the Controller AG-A50 side.

For more details, read the instructions manual for the AG-A50.

❶ Still Button
❷ Stop Button
❸ Rewind Button
Reverse search can be obtained when this button is kept depressed during playback.
❹ Play Button
❺ Still Advance Button
A still picture will advance one frame at a time when pressed during still picture.
❻ Fast Forward Button
Forward search can be obtained when this button is kept depressed during playback.
❼ Slow-motion Button

Notes:

- The infrared beam should be transmitted directly at the infrared remote controller receiver on the front of the unit.
- Direct sunlight may interfere with the beam.
- The AG-A50 is designed exclusively for use with the AG-500R.

Troubleshooting

...Check the following points once again.

Trouble	Check Points
No power	•Check that the power cord is connected to the AC Outlet.
The cassette tape cannot be inserted	•Check that the power is turned on. •Check that the window of the cassette tape is to the right side when insertion.
No operation when operation buttons are pressed.	•**Check for the "d" Indicator on the counter. When the "d" Indicator appears: Take out the video cassette and leave the unit on and let it remain at room temperature until this Indicator disappears. Depending on the surrounding conditions, this may take several hours.** •Check that the cassette tape is inserted.
The Playback picture is noisy or contains streaks.	•Adjust by slowly turning Tracking Control for normal playback or Slow Tracking Control for still or slow motion playback.
Repeat Playback or Timer Playback cannot be performed.	•Check that the Auto Repeat Switch is set to one of the Auto Repeat positions.
When the power is turned on, unit starts playback automatically.	•Check that the Auto Repeat Switch is set to the "OFF" position.
Tape stops near the counter digit "0000" during FF or REW mode	•"M" Indicator on the counter lights. Press the Memory/Search Lock Button to clear the "M" Indicator.

Specifications

General

Power Source:	AC 120 V, 50–60 Hz
Power Consumption:	Approx. 62 W
Audio (Speaker) Output:	1.5 W
Headphone Output:	Max. 150 mV (8Ω)
Connectors (RCA):	Video Input; 1.0 Vp-p, 75Ω Video Output; 1.0 Vp-p, 75Ω Audio Input; −10 dB, 47 kΩ Audio Output; −8 dB, 1 kΩ
Operating Temperature:	41°F~104°F (5°C~40°C)
Operating Humidity:	35%~80%
Weight:	Approx. 26.4 lbs (12.1 kg)
Dimensions:	15⅜" (W)×13½" (D)×11⅜" (H) 390×340×288 mm

Monitor Section

Picture Tube:	10", 90° Deflection
Resolutions:	More than 300 lines

VTR Section

Television System:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Playback System:	Helical scanning system
Recorded Video Signal:	Luminance; FM azimuth recording Color signal; converted subcarrier phase shift recording
Audio Track:	1 track
Tape Format:	VHS tape
Tape Speed:	SP; 1 5/16 i.p.s. (33.35 mm/s) LP; 21/32 i.p.s. (16.67 mm/s) SLP; 7/16 i.p.s. (11.12 mm/s)
Playback Time:	360 min. with NV-T120 used in
FF/REW Time:	Approx. 6 min. with NV-T120
Video Horizontal Resolution: (on monoscope test pattern)	More than 240 lines (color mode)
Audio Frequency Response:	SP; 50 Hz~ 12 kHz, LP; 50 Hz~8 kHz, SLP; 50 Hz~6 kHz
Signal-to-Noise Ratio:	Video; better than 45 dB (SP mode) Audio; better than 43 dB (SP mode)

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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